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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/189,010	11/09/1998	TATSUYUKI TOKUNAGA	1232-4478	5014

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EXAMINER

YE, LIN

ART UNIT PAPER NUMBER

2615

DATE MAILED: 01/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/189,010	TOKUNAGA, TATSUYUKI	
	Examiner	Art Unit	
	Lin Ye	2615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 November 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-11 and 13-58 is/are pending in the application.
- 4a) Of the above claim(s) 4,5,15-17 and 23-58 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2,3,6-11,13,14 and 18-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 November 1998 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Appeal Brief

1. Applicant's Appeal Brief filed on 11/21/05 has been fully considered. The applicant argues that the Iwasaki reference does not disclose, teach, or suggest that the first accumulation control part 16 and second accumulation control part 17 provide storing functionality. The examiner agrees. Therefore, the final rejection mailed on 6/24/05 has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made under 35 U.S.C. 103(a) as being unpatentable over Hirt et al. U.S. Patent 5,883,830 in view of Iwasaki U.S. Patent 5,497,215. This action is not made final.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 2-3, 6-11, 13-14, 18-20 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hirt et al. U.S. Patent 5,883,830 in view of Iwasaki U.S. Patent 5,497,215.

Referring to claim 2, the Hirt reference discloses in Figures 1, 4 and 5, a photoelectric conversion device (CMOS image sensing device) comprising: photoelectric converter (image sensor array 12) including a plurality of photoelectric conversion elements on a

semiconductor substrate (single integrated chip 10 formed from a CMOS process on a single chip having an image sensor array 12, a flash programmable memory 14 and controller unit 16, see Col 4, lines 11-30); a plurality of storage elements (Flash memory array 14, See Col. 4, lines 58-63), arranged on the same semiconductor substrate (chip 10), each for storing predetermined control information (compensation value) employable in controlling corresponding one of said photoelectric conversion element (e.g., the control information is for controlling exposure operation and adjusting signals output as controlling charge accumulation from the sensor array because the sensor array 12 is exposed to a field of known light intensity variation, see Col. 5, lines 9-12 and lines 25-30; and Figures 4-6, illustrate the operation for each photo detection elements, for example the gate of transistor 204 is physically modified by the flashing programming voltage to modify the electrical characteristics of the transistor to reduce its drive strength by an amount sufficient to compensate for variations in photo diode 202, See Col. 7, lines 10-15); wherein each of said plurality of storage elements includes rewritable memory of which control information employable in controlling an operation of said photoelectric conversion element is rewritable by a predetermined program stored in a program memory (e.g. the programming of memory 14 can be reprogrammed, see Col. 5, lines 35-47); and a controller (16), wherein said controller controls charge accumulation of said photoelectric converter on the basis of the control information stored in said storage elements (e.g. the controller 16 adjusts individual signals as an amount of accumulated charges received from the sensor array with corresponding compensation values from the memory 14, See Col. 5, lines 58-63, and Col. 6, lines 46-58). However, the Hirt reference does not explicitly show the photoelectric

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converter (12) including a plurality of photoelectric conversion elements (regions of pixel sensing units) each of which is constructed by a plurality of pixels.

The Iwasaki reference discloses in Figure 2, a photoelectric conversion device comprising: photoelectric converter (photometry part 10) including a plurality of photoelectric conversion elements (For example, photometry regions 10a and 10b) which is constructed by a plurality of pixels on a semiconductor substrate (See Col. 3, lines 15-24). The Iwasaki reference is an evidence that one of ordinary skill in the art at the time to see more advantages for the photoelectric conversion device dividing the subject field into regions and independently controlling the charge accumulation in the difference regions so that the light from the major subject in the subject field can be measured more accurately, the smear phenomenon can be eliminated and the optimum exposure can be obtained easily (See Col. 7, lines 40-53). For that reason, it would have been obvious one of ordinary skill in the art at the time to modify the photoelectric conversion device of Hirt ('830) for including a plurality of photoelectric conversion elements (regions of pixel sensing units) each of which is constructed by a plurality of pixels as taught by Iwasaki ('215).

Referring to claim 3, the Hirt and Iwasaki references disclose all subject matter as discussed with respect to claim 2, and the Hirt reference discloses wherein said photoelectric conversion converter further includes a monitor (programming unit 28, see Col. 5, lines 14-22) for monitoring an accumulated charge state in said photoelectric conversion element, and said control means includes selector (selection signal line 214, see col. 7, lines 2-15) for selecting an arbitrary one of a plurality of pieces of status information (e.g., the compensation values 34 based upon differences among the signal values provided by

individual pixel elements of sensor, see Col. 5, lines 20-25) on the basis of the control information stored in said storage means (flash programming memory 14), and a comparator (calculating compensation values 44) for comparing an output from said monitor means with the status information selected by said selector, and controls the charge accumulation of said photoelectric conversion converter on the basis of comparison result of said comparator as shown in Figures 4-6 (See Col. 6, lines 50-67).

Referring to claim 6, the Hirt and Iwasaki references disclose all subject matter as discussed with respect to claim 2, and the Iwasaki reference discloses a plurality of photoelectric conversion converter equivalent to said photoelectric conversion converter (10a and 10b).

Referring to claim 7, the Hirt and Iwasaki references disclose all subject matter as discussed with respect to claim 3, and the Iwasaki reference discloses wherein said monitor monitors and outputs information based on a maximum accumulated charge amount of said photoelectric conversion element as shown in Figure 12 (See Col. 47-49).

Referring to claim 8, the Hirt and Iwasaki references disclose all subject matter as discussed with respect to claim 3, and the Iwasaki reference discloses wherein said controller stores the status information (e.g., photographic conditions) selected by said selector in said storage means as the control information as shown in Figure 11.

Referring to claim 9, the Hirt and Iwasaki references disclose all subject matter as discussed with respect to same comment as with claim 2.

Referring to claim 10, the Hirt and Iwasaki references disclose all subject matter as discussed with respect to claim 2, and the Hirt reference discloses wherein said control

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means includes a circuit (programming unit 28) for determining predetermined information on the basis of said output from said monitor, and stores the information (compensation values) determined by said determination means in said storage means as the control information (see Col. 5, lines 15-45).

Referring to claim 11, the Hirt and Iwasaki references disclose all subject matter as discussed with respected to same comment as with claims 3 and 10.

Referring to claim 13, the Hirt and Iwasaki references disclose all subject matter as discussed with respected to same comment as with claim 3.

Referring to claim 14, the Hirt and Iwasaki references disclose all subject matter as discussed with respected to same comment as with claims 2, 6 and 9.

Referring to claim 18, the Hirt and Iwasaki references disclose all subject matter as discussed with respected to same comment as with claim 7.

Referring to claim 19, the Hirt and Iwasaki references disclose all subject matter as discussed with respected to same comment as with claim 8.

Referring to claim 20, the Hirt and Iwasaki references disclose all subject matter as discussed with respected to same comment as with claim 10.

Referring to claim 22, the Hirt and Iwasaki references disclose all subject matter as discussed with respected to claim 14, and the Hirt discloses a storage medium (flashing programming of memory 14) which computer-readably stores program code corresponding to a control method of claim 14.

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4. Claim 21 rejected under 35 U.S.C. 103(a) as being unpatentable over Hirt et al. U.S. Patent 5,883,830 in view of Iwasaki U.S. Patent 5,497,215 and Akashi et al. U.S. Patent 5,615,399.

Referring to claim 21, the Hirt and Iwasaki references disclose all subject matter as discussed in respected claim 2, except the references do not explicitly states a focus detection device including the photoelectric conversion device.

The Akashi reference disclose in Figure 1, the focus detecting apparatus including a photoelectric conversion device (area sensor 201). The Akashi reference is an evidence that one of ordinary skill in the art at the time to see more advantages for a focus detecting apparatus using an area photoelectric sensor as an AF sensor, because the focus detecting device can be capable of accomplishing focus detection automatically and accurately, and can provide a sufficient focus detecting performance for a side rang of brightness fluctuation in the object image field (See Col. 4, lines 36-46). For that reason, it would have been obvious to ordinary skill in the art at the time to modify the photoelectric conversion device of Hirt ('830) for providing focus detection function as taught by Akashi ('399).

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
- a. Morris et al. U.S 6,665,010 discloses an imager includes groups of pixel sensing units and a control circuit.

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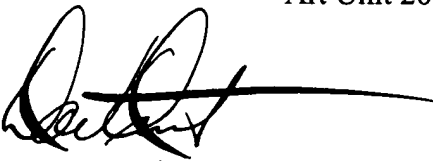
- b. Hynecek U.S. 6,229,133 discloses the output image signal level is proportional to the integration time.
6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lin Ye whose telephone number is (571) 272-7372. The examiner can normally be reached on Mon-Fri 8:00AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David L. Ometz can be reached on (571) 272-7593. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Lin Ye
Examiner
Art Unit 2615

January 12, 2006



DAVID OMETZ
SUPERVISORY PATENT EXAMINER